

WHAT IS CLAIMED IS:

1. A printing apparatus including transporting means for transporting a print medium relative to printing means for printing an image on a print sheet, the apparatus comprising:

vibrating means for vibrating said transporting means,

wherein said vibrating means vibrate said transporting means before the printing means start a printing operation.

2. A printing apparatus according to claim 1, wherein said transporting means comprises a movable member installed so as to move or stop relative to a travel path for the print medium, and said movable member contacts, while moving, with the print medium in said travel path to transfer the print medium, and is held, while stopped, at a predetermined stabilized position normally.

3. A printing apparatus according to claim 1, wherein said transporting means comprises a pair of rollers installed in the travel path for the print medium and opposite each other, roller urging means for urging said pair of rollers so that the rollers sandwich the print medium therebetween, and driving means for rotationally driving at least one of said pair of rollers.

4. A printing apparatus according to claim 3,
wherein said pair of rollers comprises a transportation
roller located upstream of the printing means in a
5 transporting direction thereof and driven by
predetermined driving means, and a pinch roller that
rotates in connection with the transportation roller.

5. A printing apparatus according to claim 1,
10 wherein said vibrating means is a carriage having the
printing means mounted thereon and reciprocated in a
direction crossing a direction in which the print medium
is transported.

15 6. A printing apparatus according to claim 5,
wherein said carriage vibrates the transporting means by
performing at least one reversing operation.

7. A printing apparatus according to claim 1,
20 further comprising a pressure plate that elastically
supports the print medium using elastic force of a
predetermined elastomer, and a sheet feeding roller that
feeds print medium supported and laminated on the pressure
plate to said transporting means, and in that:

25 said vibrating means is composed of pressure
releasing means for pressing and releasing said pressure
plate.

8. A printing apparatus according to claim 7,
wherein said pressure plate is installed so as to move
forward and backward relative to said sheet feeding roller,
5 the forward and backward movement is carried out in
connection with a sheet feeding operation performed by said
sheet feeding roller, and while said pressure releasing
means is performing a pressing or releasing operation, the
driving of said pressure plate in connection with said
10 sheet feeding roller is interrupted.

9. A printing apparatus according to claim 4,
further comprising a pinch roller holder that rotatably
supports said pinch roller and holder moving means for
15 moving the pinch roller holder, and in that said vibrating
means comprises said holder moving means.

10. A printing apparatus according to claim 4,
wherein said vibrating means vibrates said transporting
20 means after at least a back end of the print medium has
passed through an abutted portion between said
transportation roller and said pinch roller.

11. A printing apparatus according to claim 4,
25 further comprising detection means for detecting a
position at which said transportation is stopped, and if
it is detected that said transportation roller stopped

position is deviate from a desired one after said vibrating means has vibrated the transporting means, then said transportation roller stopped position is corrected before a print head performs a printing operation.

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12. A printing apparatus according to claim 4, further comprising detection means for detecting a position at which said transportation is stopped, and if it is detected that said transportation roller stopped position is deviate from a desired one after said vibrating means has vibrated the transporting means, then printing is carried out by shifting an operative portion of the printing means in the transporting direction depending on the amount of the positional deviate.

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13. A printing apparatus according to claim 11, wherein said detection means comprises a signal generator that generates pulse signals the number of which corresponds to rotation of said transportation roller, and counting means for counting the number of signals from the signal generator.

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14. A printing apparatus according to claim 12, wherein said detection means comprises a signal generator that generates pulse signals the number of which corresponds to rotation of said transportation roller, and counting means for counting the number of signals from the

signal generator.

15. A printing apparatus according to claim 1,
wherein said printing means uses thermal energy to generate
5 bubbles in ink so that energy generated by the bubbles
causes the ink to be ejected.

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10 16. A printing method which includes transporting
means for transporting a print medium relative to printing
means for printing an image on a print sheet and which uses
said transporting means to transport the print medium after
the printing means has performed a printing operation, the
method comprising a step of:

15 vibrating said transporting means before the
printing means start the printing operation.

20 17. A printing method according to claim 16, wherein
said transporting means comprises a movable member
installed so as to move or stop relative to a travel path
for the print medium, and said movable member contacts,
while moving, with the print medium in said travel path
to transfer the print medium, and is held, while stopped,
at a predetermined stabilized position normally.

25 18. A printing method according to claim 17, wherein
said transporting means comprises a pair of rollers
installed in the travel path for the print medium and

opposite each other, roller urging means for urging said pair of rollers so that the rollers sandwich the print medium therebetween, and driving means for rotationally driving at least one of said pair of rollers.

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